

Abstract of the Disclosure

A semiconductor device containing a dielectric capacitor having an excellent step coverage for a device structure of high aspect ratio

5 corresponding to high integration degree, as well as a manufacturing method therefor are provided. A dielectric capacitor of high integration degree is manufactured by forming a bottom electrode 46 and a top-electrode 48 comprising a homogeneous thin Ru film with 100% step coverage while putting a dielectric 47 therebetween on substrates 44, 45 having a three-

10 dimensional structure with an aspect ratio of 3 or more by a MOCVD process using a cyclopentadienyl complex within a temperature range from 180°C or higher to 250°C or lower.